

39. (Amended) A method for simultaneously exposing an array of test compounds to a detector layer of physiologically viable cells, comprising:

(a) providing an array of test compounds, wherein each test compound is disposed on a support; and

(b) bringing the array of test compounds in close apposition with the detector layer so that a porous membrane is in contact with a liquid layer surrounding the detector layer and is in contact with the array of test compounds thereby allowing diffusion of the test compounds through the porous membrane to the detector layer.

40. (Amended) The method of claim 39, wherein the support is the porous membrane.

41. (Amended) The method of claim 39, wherein the support is a non-porous substrate.

43. (Amended) The method of claim 39, wherein the physiologically viable cells form a monolayer.

44. (Amended) The method of claim 39, wherein the physiologically viable cells are supported by an optically clear substrate.

45. (Amended) The method of claim 60, wherein the response is recorded by a sequence of images.

50. (Amended) The method of claim 41, wherein the solid support is a non-porous substrate and wherein the cells are grown on the porous membrane, whereby the test compounds are allowed to diffuse through the porous membrane to the cells layer.

53. (Amended) The method of claim 60, wherein the detected response is a change in a luminescence property of the physiologically viable cells in the detector layer.

54. (Amended) The method of claim 60, wherein the detected response is a change in a fluorescence property of the physiologically viable cells in the detector layer.

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55. (Amended) The method of claim 40, wherein the array of test compounds is generated on the support by combinatorial chemistry.

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59. (Amended) A method for screening test compounds for bioactivity, comprising:

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- (a) contacting an array of test compounds with a detector layer whereby each test compound comes into contact with a localized liquid which is in contact with the detector layer, wherein said array of test compounds is comprised of a plurality of test compounds, each of said test compounds being disposed on a solid support, and wherein said detector layer is comprised of a monolayer of physiologically viable cells; and
  - (b) detecting a response of the detector layer to the test compound, wherein a response is indicative that a test compound is a bioactive compound.
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Please add the following new claims:

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--60. (New) A method for screening test compounds for bioactivity, comprising:

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- (a) providing an array of test compounds, wherein each compound is disposed on a support;
- (b) providing a detector layer of physiologically viable cells;
- (c) bringing the array of test compounds in close apposition with the detector layer so that the porous membrane is in contact with the liquid layer surrounding the detector layer and is in contact with the array of test compounds thereby allowing diffusion of the test compounds through the porous membrane to the detector layer; and
- (d) detecting a response of the detector layer to the test compound.
- Handwritten notes:* "relate" with an arrow pointing to (b); "7" with an arrow pointing to (c); "61" and "62" with arrows pointing to the subsequent paragraphs.

61. (New) The method according to claim 39, wherein the porous membrane limits lateral spread of the test compounds during diffusion of the test compounds through the porous membrane to the detector layer.

62. (New) The method according to claim 60, wherein the porous membrane limits lateral spread of the test compounds during diffusion of the test compounds through the porous membrane to the detector layer.--